

Request for filing
a continuation patent app. 10/633,625

What Is Claimed Is:

1. A method for manufacturing a liquid crystal display panel, comprising:
preparing first and second substrates having an active region;
forming a sealant along a periphery of the active region on at least one of
the first and second substrates;
dispersing a liquid crystal material on the at least one substrate, the liquid
crystal material having a photo-reactant material;
attaching the first and second substrates; and
irradiating ultraviolet light on an entire surface of the at least one substrate.
2. The method according to claim 1, wherein the sealant is an ultraviolet
hardening sealant.
3. The method according to claim 1, wherein the sealant is an ultraviolet and
thermo-hardening sealant.
4. The method according to claim 1, wherein the photo-reactant material includes
one of a photo-reactive polymer and a photo-reactive oligomer.

5. The method according to claim 1, wherein the ultraviolet light includes at least polarized ultraviolet light.

6. The method according to claim 1, further comprising forming an alignment layer on at least one of the first and second substrates.

7. The method according to claim 1, wherein the step of preparing the first substrate includes:

forming a plurality of gate lines and a gate electrode of a thin film transistor on the first substrate;

forming a gate insulating film on an entire surface of the first substrate;

forming a semiconductor layer on the gate insulating film;

forming data lines and source and drain electrodes on the semiconductor layer; and

forming a pixel electrode on the source and drain electrodes.

8. The method according to claim 1, wherein the step of preparing the second substrate includes:

forming a light-shielding layer on the second substrate;

forming a color filter layer on the light-shielding layer; and

forming a common electrode on the color filter layer.

9. The method according to claim 1, further comprising forming a spacer on at least one of the first and second substrates.

10. The method according to claim 9, wherein the spacer includes a column spacer.

11. A liquid crystal display device, comprising:

a first substrate;

a second substrate opposing the first substrate;

at least one sealant along a periphery of one of the first and second substrates; and

a liquid crystal layer between the first and second substrates, the liquid crystal material layer having a photo-reactant material.

12. The device according to claim 11, wherein the sealant includes an ultraviolet hardening sealant .

13. The device according to claim 11, wherein the sealant includes an ultraviolet and thermo-hardening sealant .

14. The device according to claim 11, wherein the photo-reactant material includes one of a photo-reactive polymer and a photo-reactive oligomer.

15. The device according to claim 11, further comprising an alignment layer on at least one of the first and second substrates.

16. The device according to claim 11, wherein the second substrate includes a light-shielding layer, a color filter layer disposed on the light-shielding layer, and a common electrode on the color filter layer.

17. The device according to claim 11, further comprising a spacer on at least one of the first and second substrates.

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18. The method according to claim 17, wherein the spacer includes a column spacer.

19. A method for manufacturing a liquid crystal display panel, comprising:
forming at least one sealant along a periphery of an active region between first and second substrates;
dispersing a liquid crystal material in the active region, the liquid crystal material having a photo-reactant material; and
irradiating ultraviolet light on an entire surface of the first and second substrates.

20. The method according to claim 19, wherein the sealant includes an ultraviolet hardening sealant.

21. The method according to claim 19, wherein the sealant includes an ultraviolet and thermo-hardening sealant.